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# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Not for submission under 37 CFR 1.99)

Application Number	09901737
Filing Date	2001-07-09
First Named Inventor	LANAHAN
Art Unit	1638
Examiner Name	Anne R. Kubelik
Attorney Docket Number	21043

## **U.S. PATENTS**

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6277615		2001-08-21	VARGHESE et al.	
	2	7102057		2006-09-05	LANAHAN et al.	

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## **U.S. PATENT APPLICATION PUBLICATIONS**

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## **FOREIGN PATENT DOCUMENTS**

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## **NON-PATENT LITERATURE DOCUMENTS**

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	Gilbert, "Production and characterization of cellulases and xylanases from the thermophilic ascomycete <i>Thielavia Terrestris</i> 255b", Univ. Microfilms Int., Order No. DANN93618 (1992) pp 243	<input type="checkbox"/>
	2	Goodenough et al., "Protein Engineering to change thermal stability for food enzymes", Biochem Soc Trans, Aug; 19 (3): 655-62	<input type="checkbox"/>
	3	Goodenough et al., "A Review of Protein Engineering for the Food Industry", Mol. Biotechnol., Oct, 4(2) 151-66	<input type="checkbox"/>
	4	Romaniec et al., "Molecular Cloning of <i>Clostridium Thermocellum</i> DNA and the expression of Further Novel AEndo-b-1-4-glucanase Genes in <i>Escherichia coli</i> ", Journal of General Microbiology (1987) 133: 1297-1307	<input type="checkbox"/>
	5	Collings, et al., "Endo-B-1-4-glucanase, exo-B-1, 4-glucanase, B-glucosidase and related enzyme activity in culture filtrates of thermophilic, thermotolerant and mesophilic filamentous fungi", 131 Microbios 56 131-147 1988	<input type="checkbox"/>
	6	Spezio et al., "Crystal Structure of the Catalytic domain of a Thermophilic Endocellulase", Biochemistry (1993) 32, 9906-9916.	<input type="checkbox"/>
	7	Juy et al., "Three-dimensional structure of a thermostable bacterial cellulase", Cellul. Hydrolysis Ferment., Proc. CEC Workshop (1992) 18-29	<input type="checkbox"/>
	8	Presutti et al., "Cloning of Three Endoglucanase Genes From <i>Thermomonospora Curvata</i> Into <i>Escherichia coli</i> ", Journal of Biotechnology, 17 (1991) 177-188.	<input type="checkbox"/>
	9	Jin et al., "Purification and Characterization of Cellulases from <i>Clostridium Thermocopriae</i> sp. nov. JT3-3", Journal of Fermentation and Bioengineering Vol. 67, No. 1, 8-13 (1989)	<input type="checkbox"/>
	10	Kvesitadze et al., "Thermostable Endo-B-1,4-glucanase and endo-b-1,4-xylanase activity in culture filtrates and a purified enzyme fraction in the thermophilic fungus <i>Aflescheria terrestris</i> ", Microbios 80(323) 115-123 (1994)	<input type="checkbox"/>

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11	Matsumura et al., "Cumulative Effect of Intragenic Amino-Acid Replacements on the Thermostability of a Protein", Nature, Vol. 323 25 (September 11986) pp 358-358	<input type="checkbox"/>
12	Baker et al., "A New Thermostable Endoglucanase, Acidothermus Cellulolyticus E1 Synergism with Trichoderma reesei CBH I and comparison to thermomonospora fusca E5" Applied Biochemistry and Biotechnology (1994) 45-46, 245-56.	<input type="checkbox"/>
13	Politz et al., "Determinants for the Enhanced Thermostability of Hybrid (1-3,1-4)-Beta-glucanases", Eur. J. Biochem. 216 829-834 (1993).	<input type="checkbox"/>
14	Lao et al., "DNA Sequences of Three Beta-1,4-Endoglucanase Genes from Thermomonospora fusca" Journal of Bacteriology, (June 1991) p 3397-3407.	<input type="checkbox"/>
15	Robson et al., "Cellulases of Bacterial Origin" Enzyme Microb. Technol. (1988) Vol. 11, October, pp626-644.	<input type="checkbox"/>
16	Sakon et al., Crystal Structure of Thermostable Family 5 Endocellulase E1 From Acidothermus Cellulolyticus in Complex With Cellotetraose". Biochemistry (1996) 35, 10648-10660.	<input type="checkbox"/>
17	Davies et al., "Crystallization and Preliminary X-Ray Analysis of a Fungal Endoglucanase I", J. Mol. Biol. (1992) 228, 970-972.	<input type="checkbox"/>
18	Chitarra et al., "Multiple Crystal Forms of Endoglucanase CelD: Signal Peptide Residues Modulate Lattice Formation", J. Mol. Biol. (111995) 248,225-232.	<input type="checkbox"/>
19	Dominguez et al., "Characterization of Two Crystal Forms of Clostridium Thermocellum Endoglucanase CelC", PROTEINS: Structure, Function, and Genetics 19:158-180 (1994).	<input type="checkbox"/>
20	Arnold, "Engineering Proteins for Nonnatural Environments", FASEB J. (June 1993) Vol. 7 pp 744-749.	<input type="checkbox"/>
21	Nosoh et al., "Protein Engineering for Thermostability" Trends Biotechnol. (January 1990) 8 (1) pp 16-20.	<input type="checkbox"/>

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22	Imanaka et al., "A New Way of Enhancing the Thermostability of Proteases" Nature Vol. 324 18/25 (December 1986) pp 695-697.	<input type="checkbox"/>
23	Matthews et al., "Enhanced Protein Thermostability From Site-Directed Mutations That Decrease the Entropy of Unfolding" Biochemistry Vol. 84 pp. 6663-6667 (October 9187).	<input type="checkbox"/>
24	Arias, "Engineering Protein Thermal Stability Sequence Statistics Point to Residue Substitutions in $\alpha$ -Helices" J. Mol. Biol. (1989) 208, pp 397-4406.	<input type="checkbox"/>
25	Davies et al., "Structure and Function of Endoglucanase V" Nature Vol. 365; 23 September 1993, pp. 362-364.	<input type="checkbox"/>

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/Anne Kubelik/

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(Use several sheets if necessary)

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21043  
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APPLICANT  
LEBEL ET AL.  
FILING DATE  
July 9, 2001

Group  
1638

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	3	5981835	1999-11-	Austin-Phillips , et al			
	4	6818803	2004-11-	Austin-Phillips , et al.			

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	OFFICE	CLASS	SUBCLASS	TRANSLATION	
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